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BUILDING CONSTRUCTION IN THE NORTHWEST AND THE UNITED STATES AS A WHOLE

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Since the demands of the war effort have imposed a recess on the normal play of economic factors in building construction when it appeared to be recovering from the low levels of the depression, this seems to be an opportune time to review the industry over the last twenty-year period. The purposes of this review will be threefold: to determine the extent of the recovery that had been made in the industry prior to the defense program; to determine how the fluctuations in building construction in the Northwest have compared with those of the United States generally; and to determine how the present events are apt to affect the postwar building period.

Importance of the Industry. Building construction as an industry gains much of its importance because of sheer size. It is the largest direct employer of labor in the country; it accounted for 5½ per cent of the total nonagricultural labor forces of the United States in 1929. Furthermore, by being the principal customer of the products of many other great industries such as brick, cement, lumber, structural steel, plumbing fixtures, it exerts a large indirect influence on business. Transportation, too, feels strong reverberations from the activity of the building industry; it is estimated that about 20 per cent of all revenue freight in 1929 was construction materials.

However, building construction holds its important place in business, not only by reason of size, but also because of its position as a durable-goods industry. A characteristic of the industry, as of all durable-goods industries, is that the demand is very postponable; it is dependent in a large measure on the expectations of the future and is therefore highly flexible and an important item in the business cycle. This flexibility of demand, furthermore, is magnified in effect as it exhibits the familiar economic principle of acceleration. That is, the demand for the output or current services of durable goods tends to cause much greater changes in the demand for the durable goods themselves.

Even those, however, who may not be impressed with the size of the building construction industry, or with its influence on the business cycle, may still be very seriously concerned with the industry's social aspect. Since a large part of building activities consists of construction of residential dwellings, this industry is a vital factor in our national standard of living.

Thus, it is little wonder, with such a large segment of the population directly and indirectly influenced by building construction, that businessmen, economists, and those interested in society as a whole watch with so much concern the activities of this industrial field.

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The index numbers used in this study are based on dollar permit-valuation figures which represent estimates of construction costs made by prospective builders when applying for permits to build, in the case of privately financed construction, and the value of contracts awarded, in the case of construction financed with Federal or state funds. These figures are unadjusted for changes in the cost of

Table I

Permit Valuation of Total Building Construction
1921 to 1941

(Index numbers based on five-year average, 1935-39=100)

Year	257 United States Cities*	3 Northwest Cities#	20 Northwest Cities#
1921	166.0	164.4	--
1922	250.0	249.5	--
1923	307.0	280.0	--
1924	316.9	330.2	--
1925	363.8	406.2	--
1926	345.7	392.5	--
1927	314.2	341.1	--
1928	298.5	341.8	--
1929	264.9	269.6	--
1930	153.3	254.7	--
1931	111.8	120.6	--
1932	43.5	37.6	31.7
1933	34.6	28.5	24.8
1934	37.3	30.0	27.8
1935	62.4	50.0	49.1
1936	97.0	94.1	96.3
1937	107.2	102.7	99.0
1938	107.1	108.4	113.9
1939	126.3	144.9	141.8
1940	159.0	291.0	242.8
1941	167.3**	324.6	280.1

* Source: Bureau of Labor Statistics, Building Construction, 1940, Bulletin no. 693, p. 5. These are 257 cities with populations of 25,000 or more, of which there was a total of 376 in 1930.

\# Source: Based on data published by the Bureau of Labor Statistics plus reports to the Bureau of Business Research by officials in some of the represented cities. The three Northwest cities are Seattle, Spokane, and Portland. The 20 cities are these three plus Pocatello, Everett, Salem, Longview, Wenatchee, Boise, Astoria, Hoquiam, Aberdeen, Walla Walla, Bremerton, Bend, Bellingham, Olympia, Eugene, Tacoma, and Medford.

** The figure for 1941 was obtained by applying the estimated percentage change from 1940 to 1941 of 2006 principal U. S. cities, given in a January news release from the Bureau of Labor Statistics.

building construction materials and include only building construction within the corporate limits of the reporting cities.

Fluctuations in Building Activity. That the building construction industry has experienced severe cyclical fluctuation is shown by the index numbers of permit valuations for the three Northwest cities and also for the 257 United States cities (see Table I). By comparing the low point in 1933 with the peak of 1925 it can be seen that building activity in the 257 cities fell in 1933 to one-tenth of its 1925 figure, and, similarly, the three Northwest cities fell to one-fifteenth of their peak. However, the rise of 200 per cent in the index figure of 1938 over the low mark in 1933 in the 257 United States cities and the corresponding rise of 280 per cent in the figures for the three Northwest cities indicate that the construction industry was definitely in a recovery phase before the defense program set in.

Whether or not this recovery was satisfactory in the light of prevailing business conditions can best be ascertained by comparing the recovery in building construction with that made in other durable-goods industries. Durable goods as a whole regained their level of employment of 1929 in 1937[1], whereas the construction industry fell far short of any such record in both the United States cities and the three Northwest cities, both groups reaching in 1937 only about 40 per cent of their 1929 level. Ordinarily the construction industry is expected to lead in recovery; but the thirties found building construction behind other comparable industries.

The chief reason for the building construction lag was the inflexibility of the cost of building materials and labor compared with the general price level, or even with durable goods generally. It is true that during the depression building costs did somewhat decline, but they had risen so sharply during the building boom days that they were still relatively high; moreover, in the recovery years they had shot up much more sharply than the general cost of living.[2] Throughout the period they were comparatively high.

This inflexibility of building costs may be attributable to several factors, one of the foremost being the prevalence of monopolistic practices controlling both materials and labor costs. Since the ratio of materials to labor in residential construction is about one and one-half to one, monopolistic control in either factor may influence considerably the cost of a house.

Another important reason for the relatively high building costs is the inefficiency of production methods in the industry; they are cumbersome, archaic, and largely reminiscent of the handicraft days. With larger-scale production bringing simplification, standardization, mechanization, and new research for improvements, building costs could be considerably reduced and the market thereby extended.

High taxes, traditional high-cost designs, lack of coordination in the management of the many divisions of the construction industry, outmoded building codes and union regulations--these, too, are contributing factors to the relatively high construction costs.

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[1] Temporary National Economic Committee, Toward More Housing, Monograph no. 8 (1939), p. 4936.

[2] Business Week (December 14, 1941), p. 68.

Comparison of the movements in the three Northwest cities with those of the 257 United States cities shows that both, having started from nearly identical index figures in 1921, proceeded upward to reach their peaks in 1925. The peak of the Northwest trio, however, represents a 147 per cent increase over the 1921 index while the peak of the United States cities is only 122 per cent above the 1921 point. This lead in the three Northwest cities is maintained until 1931, which apparently indicates that this region enjoyed a more intense boom in building construction than did the country in general.

In the declining trend which followed the peak of the twenties, the Northwest trio and the 257 United States cities reached a similar index point in 1931 and continued to decline to approximately the same low in 1933. From 1932 until 1937 the three Northwest cities remained slightly lower than the United States group, but both began an upward trend in 1934 which gained momentum in 1938 and 1939. In 1940 and 1941 the defense program suddenly distorted upward the index for the three Northwest cities to a point approximating the index for 1928, while the 257 cities succeeded in reattaining only their 1930 point.

The data on the group of 20 Northwest cities since 1932 resemble closely that of the three Northwest cities until 1940-41 when the 20-city index struck a middle course between the heavy increase of the three cities and the moderate rise of the 257 group. It seems evident that, prior to the defense period, the three Northwest cities reflected rather well the prevailing conditions in the construction industry throughout the Northwest.

Table II

Permit Valuation of Various Classes of Building Construction 1921 to 1941

(Index numbers based on five-year average, 1935-39=100)

Year	NEW RESIDENTIAL			NEW NONRESIDENTIAL			ADD., ALTER., & REPAIRS		
	257 U. S. Cities	3 N.W. Cities	20 N.W. Cities	257 U.S. Cities	3 N.W. Cities	20 N.W. Cities	257 U.S. Cities	3 N.W. Cities	20 N.W. Cities
1921	187.9	203.3	--	167.8	147.9	--	116.5	117.5	--
1922	324.9	311.8	--	231.2	261.1	--	121.0	121.8	--
1923	402.1	362.3	--	283.4	253.6	--	143.0	168.8	--
1924	410.2	418.2	--	299.2	342.2	--	147.2	155.7	--
1925	481.0	572.9	--	345.8	359.4	--	144.0	171.4	--
1926	447.3	519.7	--	335.8	394.6	--	145.8	161.5	--
1927	383.5	410.0	--	327.6	384.5	--	145.6	158.3	--
1928	374.1	386.9	--	302.0	397.5	--	132.3	184.3	--
1929	288.5	258.6	--	305.2	299.8	--	150.2	247.6	--
1930	121.0	215.4	--	225.9	380.6	--	105.5	151.8	--
1931	85.8	87.6	--	165.6	184.6	--	80.5	91.8	--
1932	20.8	21.7	20.4	73.3	52.2	38.9	43.7	46.1	37.5
1933	18.5	15.5	15.0	48.7	30.3	24.3	46.1	49.1	38.8
1934	15.8	11.6	12.3	52.5	27.6	23.3	58.8	66.4	55.3
1935	43.0	32.4	35.9	76.7	59.0	48.1	80.7	69.0	68.5
1936	92.7	85.9	84.7	100.0	98.4	105.7	101.2	102.6	99.4
1937	95.8	105.9	104.0	115.6	90.6	93.2	118.1	113.4	99.9
1938	116.7	113.7	113.9	101.8	102.2	121.1	95.2	107.1	104.2
1939	151.8	161.9	161.5	106.0	118.6	131.8	102.7	108.0	128.0
1940	160.7	238.5	253.4	191.0	480.7	329.9	103.8	124.1	110.0
1941	181.4	392.6	388.9	179.0*	370.9	286.3	112.0*	139.0	121.3

(Sources and explanation: same as for Table I)

New Residential Construction. In Table II the data for permit valuations of total building construction have been broken into index numbers for three divisions: new residential construction; new nonresidential construction; and additions, alterations, and repairs. New residential construction accounts for the largest share of building activity and its index numbers form a cyclical pattern resembling closely that of total building construction. Both reach their peaks in the same year, 1925. However, residential construction shows a tendency to fluctuate more violently than general building or the nonresidential building construction.

In the peak year of 1925 the three Northwest cities topped their 1921 index figure of new residential construction by 181 per cent, while the 257 United States cities showed only a 156 per cent increase over their 1921 score. It seems evident that new residential construction accounted for a large share of the lead which building construction in the Northwest cities enjoyed over the 257 United States cities during 1925 and 1926.

During the depression of the thirties, new residential construction in the Northwest trio and in the 257 United States cities moved closely together; the indexes reached their lows in 1934. In the following upward trend their movements were similar until the influences of the defense effort gave the Northwest a distinct lead in 1940 and a much wider lead in 1941.

The index numbers for the 20 Northwest cities since 1932 followed closely those of the three cities--the only notable exception being in 1940, when the 20 cities moved above the three cities from nearly identical indexes in 1939. Evidently the defense influence on new residential building in 1940 was felt more keenly in the Northwest region in cities other than the three leading ones.

New Nonresidential Construction. The new nonresidential construction index numbers followed with modifications the cyclical pattern of the total and new residential construction. The peak year for the Northwest trio, however, came in 1928 although the peak for the 257 United States cities was again in 1925.

The index numbers for the three Northwest cities show an interesting movement during the years 1928, 1929, and 1930. From a figure of 397 in 1928 the index rapidly fell to 299 for 1929 and then the following year, 1930, rose again to 380 before sinking into the doldrums of the thirties. No similar variation is noted in the index for the 257 United States cities. The explanation may lie, very probably, in disproportionately heavy public works and utility construction in 1930 in these three cities.

The defense effort had a more distorting influence on nonresidential construction in 1940 in the Northwest cities than it had on any other classification. This increase far exceeded that of the United States cities; the three Northwest cities showed an increase of 221 per cent in 1940 over 1939 while the United States cities gained only 80 per cent. The gains in both indexes, however, declined somewhat in 1941.

The index for nonresidential construction in the 20 Northwest cities follows closely that for the three Northwest cities until the distortions of the war occurred in 1940 and 1941. In these two years, the 20 cities' index followed a pattern midway between the erratic increase of the Northwest trio and the moderate gains of the 257 United States cities.

Additions, Alterations, and Repairs. The index pattern for additions, alterations, and repairs differs from both types of new construction in amount of variation and also in peak years. The outstanding peak in both the three Northwest cities and the 257 United States cities was definitely in 1929. Both, however, fell rapidly in the next two years to reach similar lows in 1932. From this year until 1939 the two indexes followed similar courses; but for 1940 and 1941 the three Northwest cities showed the greater increase.

Conclusions. From the foregoing data it seems apparent that Northwest construction generally has shown a tendency to exceed, during the prosperity phase of the cycle, the activity in construction over the country as a whole. It has also shown a tendency, though much less noticeable, to go slightly below the general level in the depression period. Rigidity in building construction costs, however, has caused the entire industry to lag in the recent recovery period whereas building construction had in the past led the trend.

It is interesting to speculate on the future. At the present time modernization is being forced on the building industry. Scarcity of critical materials is stimulating invention of substitutes, many of which may become better and more economical than the originals. War demands are bringing about prefabrication and, with it, standardization and simplification of design. There are movements toward coordination within the industry itself and outmoded building codes are being abolished. Meanwhile a backlog of construction demand, both residential and non-residential, is accumulating because of the curtailment of building without priority ratings.

Perhaps in the postwar era the wartime improvements in construction methods will make it possible, and the avalanche of demand now being accumulated will make it necessary, to modernize the peacetime building construction industry. The failure of these modernization trends to develop and extend into the postwar period may give to that one-third of the nation which President Roosevelt has designated as "poorly housed" only added recruits.

NOTE: The regular statistical material on sections of the state of Oregon will appear again next month.